

# GOALS

The transportation system must provide equitable and effective mobility and accessibility. It must be safe and secure, and support the State's economic prosperity. It must co-exist with and enhance our natural and human environments. The following goals, while identified and discussed as separate issues, are interdependent. For example, if the system is not well maintained, the level of mobility and safety will decline.

Each goal supports one or more concepts contained in the vision for California's transportation system and is followed by supporting policies and strategies. The policies are listed under the goal they most closely support, but they may also contribute to another goal. For example, the policy of securing additional and more flexible funding will help preserve the system and improve mobility. Continuing research will improve mobility and accessibility, but will also lead to a safer, more secure transportation system.

Realizing the transportation goals and implementing the supporting policies will take considerable collaboration. In the discussion of each policy below, a list of partners is offered as a starting point and to emphasize the need for partnerships in the implementation of the CTP.

Following each policy are strategies to implement the policy. The strategies are not meant to be exhaustive and will likely be expanded and refined during the CTP's implementation.

## **Goal 1) Improve Mobility and Accessibility**

California's complex network of roadways, seaports, airports, railways, intermodal facilities, and pipelines is vital to our economic prosperity and quality of life. Projections indicate that by the year 2020, California will be home to nearly 44 million residents, with about 34 million registered vehicles. Due to environmental, physical, and fiscal limitations, building new transportation facilities alone cannot provide for the anticipated demand. We must link transportation and land use planning, invest wisely in capacity enhancements, manage the system and demand efficiently, provide viable transportation choices, and increase connectivity among all modes.

Adding capacity or transportation facilities is the supply side of the transportation coin; transportation demand management is the demand side. Transportation demand management (TDM) is a general term for strategies designed to improve transportation system efficiency. There are many different TDM strategies with a variety of impacts. Some improve availability of transportation options, while others provide incentives to choose more efficient travel patterns. Some reduce the need for physical travel through mobility substitutes or more efficient land use. TDM strategies can change travel timing, route, destination, or mode.

Mobility is not mode-specific. We need to select transportation investments that will provide the greatest mobility and efficient use of the entire system. Providing transportation choices will help balance the system and reduce congestion and environmental impacts. Enhancing

and expanding modal choices will also provide options for those who drive and improve access for those who cannot or choose not to drive.

The events of September 11, 2001, highlighted the need to provide transportation choices to ensure the nation's mobility, economic vitality, and security. When the air service was temporarily discontinued in the days following the attacks on New York and Washington D.C., passenger rail service was able to provide for the nation's continued mobility. California's legislature responded to the need for transportation choices by passing Senate Bill 1956 (Costa, Chapter 697, Statutes of 2002) enacting the Safe, Reliable High-Speed Passenger Train Bond Act for the 21<sup>st</sup> Century. If approved by California's voters, a bond measure scheduled for the November 2006 ballot would provide nearly \$10 billion to construct a high-speed rail system connecting all of California's major population centers, and funding to improve California's existing passenger rail lines that would connect to the high-speed system.

The 1989 Loma Prieta earthquake in the San Francisco Bay Area provides an example of the need for transportation choices in the event of a natural disaster. When the Bay Bridge connecting the cities of San Francisco and Oakland was closed for a month, passenger ferries were borrowed to augment the existing fleet and provide additional passenger and freight service on the Bay. Ferry service continues to be a growing alternative to congested roadways in the Bay Area (see Figure 11).

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## FIGURE 11

### San Francisco Bay Area Proposed Ferry Network



Source: Water Transit Authority, 2002.

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## Policy: Manage and operate an efficient intermodal transportation system

### Partners:

Advanced technology manufacturers	Railroad corporations
Amtrak	Regional Transportation Planning Agencies
California Department of Transportation	Seaport operators
California High-Speed Rail Authority	Transit operators
Communication systems operators	Vehicle manufacturers

People, goods, services, and information must travel by the most efficient means possible to foster economic prosperity. Modes must connect with one another to allow convenient and efficient movement. When asked, the public said they want a transportation system in which they can easily move between modes, jurisdictions, and operators. They want transit fare structures and schedules that are complementary, consistent, convenient, and easily understood.

The transportation system must be managed to ease demand on the system and maximize efficiency. For example, reducing peak period travel, improving the traffic flow and encouraging the use of transit, bicycling, and walking can help reduce demand on the road system. In seaports, greater efficiency can be achieved by extending hours of operation if warehousing, distribution, rail, and trucking firms also extend their hours.

The following strategies are designed to lead to a transportation system that can incorporate changing technology, manage growth, and balance system demand.

### Strategies:

- Improve the operating efficiency, system management, and connectivity of the State's transportation system by using advanced transportation applications.
  - Integrate standardized services and technologies statewide so that: transportation services are seamless; consumer devices (such as collision avoidance, navigation and mayday systems) function regardless of location; and market size reaches levels needed for low-cost mass production.
  - Provide State leadership by promoting and negotiating cross-jurisdictional coordination to bring about improved efficiencies and connectivity, including those at ports-of-entry, for the movement of people, goods, services, and information.
  - Embed the necessary hardware for advanced technologies during new road construction or reconstruction.
  - Continue upgrading traffic management centers and traffic management devices, as innovations are proven effective.

- Continue to support and expand freeway service patrols to rapidly respond to incidents and restore traffic flow.
- Maximize transportation investments through a coordinated approach to capacity and operational improvements, such as providing express bus service on High Occupancy Vehicle (HOV) lanes.
  - Coordinate with regional transit providers to maximize the use of HOV lanes and park and ride facilities.
- Enhance connectivity between transportation modes.
  - Integrate and interconnect transit service among transit providers and with other modes; and collaborate with private transportation providers to improve and coordinate service.
  - Deploy cross-jurisdictional advanced transportation systems to improve safety, provide traveler information, and coordinate service schedule and fare purchases.
  - Collaborate with private sector and transportation providers to develop and implement a statewide electronic payment system for such things as transit fares, toll collection, parking fees, and bicycle lockers.
  - Enhance system connectivity and convenience between motorized and non-motorized transportation modes.
  - Include infrastructure to support non-motorized modes during the planning and design phases of project development.
- Support systems for comprehensive multimodal planning and system performance analysis that incorporate all transportation modes.
  - Accelerate deployment of data collection technologies and communications.
  - Improve analytical methods for assessing performance data.
- Enable travelers to better manage their individual trips.
  - Continue development of a statewide traveler information website that effectively integrates local, regional, and interregional public services with private for-profit services.
  - Continue deployment of statewide “511” traveler information telephone service that effectively integrates existing and planned telephone-based systems.

## Policy: Increase system capacity

### Partners:

Advanced technology manufacturers  
Airport operators  
Amtrak  
Bicycle advocacy groups  
California Department of Transportation  
Construction sector

Developers  
Local and county governments  
Railroad corporations  
Regional Transportation Planning Agencies  
Transit operators  
Transit vehicle manufacturers

### CITY CARSHARE

City CarShare is a nonprofit organization whose mission is to promote car sharing as a means to reduce automobile dependence and enhance the environment and social equity in urban areas. City CarShare partners with transit services in the San Francisco Bay Area, allowing transit riders to use a car when needed without the fixed costs of owning a car.

California's growing population and economy challenge our mobility now and will continue to do so in the future. It is clear that the State will need to increase transportation system capacity in all modes to help provide for the increased demand resulting from the projected 10 million additional Californians that will be using the system in the next 20 years. Indeed, if transportation providers do not increase system capacity, the economic prosperity, individual opportunity, and quality of life that make California so attractive will be diminished. The question is how to best increase capacity with limited transportation resources, while being mindful of the State's natural and cultural environment.

There are numerous ways to increase transportation capacity or, alternately, reduce demand. Options include developing new and expanding existing facilities, improving operational characteristics and system management practices to help accommodate and balance increasing demand, and instituting demand management measures.

### Strategies:

- Expand existing and develop additional roadways.
  - Add lanes and roads where feasible and determined to be the best alternative.
  - Redesign and modernize interchanges to reduce or eliminate bottlenecks or restraints to smooth traffic flow, and to reflect current traffic-flow patterns.
  - Increase the capacity on major arterial streets through improved design, grade-separation, signal timing, and other innovative solutions.
  - Complete the HOV network and supporting facilities.
- Expand and improve transit services.
  - Expand dedicated guideway, bus rapid transit service and facilities, smart shuttles and shared car programs where proven effective.
  - Improve multimodal ground access to airports, including intercity bus service connecting small urban and rural communities to passenger air service.

- Provide State leadership, in cooperation with local, regional and federal agencies and Native American Tribal Governments, to develop an efficient cargo and passenger aviation system and mitigate their impacts.
- Continue incremental improvements to the State’s intercity rail system and passenger rail services, while providing for connectivity to a future high-speed rail network.
- Incorporate safe pedestrian and bicycle facilities in roadway capacity improvement and rehabilitation projects.
- Use technology to make vehicles “smarter.”
  - Allow more vehicles to safely share the road through advanced vehicle control and guidance systems.
  - Improve bus design and fare systems in order to more quickly move people in and out of vehicles for increased efficiency.

**Policy: Provide viable transportation choices**

**Partners:**

Amtrak	Developers
California Bicycle Coalition	Pedestrian Safety Task Force
California Department of Health Services	Rails to Trails Conservancy
California Department of Transportation	Regional Transportation Planning Agencies
California High-Speed Rail Authority	Transit operators
California Walks	Urban planners
City and County officials	

Providing viable transportation options is another way to enhance California’s mobility. Communities designed to accommodate safe, convenient transportation alternatives will result in more transportation choices for all segments of our changing society, reduce tailpipe emissions, and mitigate demand on our roadways. Enhancing interregional transportation alternatives that link communities and national and international transportation facilities will increase the economic viability of smaller urban and rural communities, and enhance State and national security by providing viable transportation alternatives.

Additionally, while California leads the nation in the number of licensed drivers, it ranks 45th in the number of licensed drivers per thousand residents.<sup>33</sup> This means California has a considerable number of residents that are dependent on transit or alternative means of transportation other than driving. Providing viable and affordable transportation alternatives will result in greater accessibility to those who cannot or choose not to drive, and a more equitable transportation system.

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<sup>33</sup> U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2003.

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## SACRAMENTO PARATRANSIT

Sacramento Paratransit, in partnership with Sacramento Regional Transit, provides door-to-door service to Sacramento County's frail, elderly, and disabled riders. A two-time winner of the Community Transit Leadership Award, the service uses advanced technology to provide safe, efficient, same-day service for those unable to use the traditional fixed-route transit service.

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According to the results of a national random sample telephone survey conducted on behalf of the Surface Transportation Policy Project in October 2002, Americans would like to walk more than they do currently. Respondents cited pedestrian safety and distances to shops, services and schools as the primary reasons why they do not walk. To make walking and biking a more viable transportation choice, these modes must be considered in land use and community planning and design. The issue of walkable and bikable communities will be discussed further under Goal 5: Reflect Community Values.

In response to the Supplemental Report of the 2001 Budget Act, the Department, in collaboration with numerous stakeholders, developed the *California Blueprint for Bicycling and Walking* (Blueprint).<sup>34</sup> The Blueprint sets forth the ambitious goals of:

- A 50 percent increase in bicycling and walking trips by 2010;
- A 50 percent decrease in bicycle and pedestrian fatality rates by 2010; and
- Increased funding for bicycle and pedestrian programs.

The Blueprint proposes strategies for improving safety and increasing bicycling and walking mode shares. It offers an action plan designed to achieve the desired goals through engineering, enforcement, education, and encouragement.

Providing transportation alternatives extends to the use of alternative fuel vehicles. Governmental agencies at all levels are currently playing a crucial role in expanding the market share of alternative fuel vehicles by "greening" their fleets. We also need to consider the State's alternative fuel infrastructure needs, customer information for fueling facilities in California and in neighboring states, and marketing the advantages of owning and operating alternative fuel vehicles. This issue will be further explored under Goal 6 - Enhance the Environment.

### Strategies:

- Support the California High-Speed Rail Authority's activities in planning for a comprehensive high-speed rail system that is integrated with the existing conventional intercity rail system.
- Provide greater access to information, products and services without the need for physical travel.
  - Increase use of telecommuting, e-commerce, and e-government services.

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<sup>34</sup> California Department of Transportation, *California Blueprint for Bicycling and Walking*, May 2002.



- Expand on-call, alternative door-to-door paratransit services, to improve mobility for persons with disabilities and elder Californians.
- Facilitate use of advanced transportation systems to flexible transit service operators, such as vehicle location, dispatch and scheduling software, safety and security systems.
- Establish methods for evaluating levels of service for all modes in support of an integrated, multimodal transportation system.
- Evaluate pilot projects such as City CarShare to determine effectiveness, identify winning attributes, and deploy on a wider basis as appropriate.
  - Share best practices and guidance with other transportation entities.
  - Gain insight and guidance from other entities regarding solutions to common problems.
- Support the goals and further the efforts initiated by the *California Blueprint for Bicycling and Walking*.
  - Integrate bicycling into mainstream transportation models and modeling, including cost benefit analysis of bicycle facilities.
  - Remove barriers to walking and bicycling.
  - Educate California’s youth on the health and air quality benefits of making trips by bicycle or foot.
- Promote use of technology to increase accessibility and reduce need for physical travel.

**Policy: Support research to advance safe and environmentally responsible mobility and accessibility**

**Partners:**

Automobile and transit vehicle manufacturers	Private sector manufacturers
California Department of Conservation	Research organizations
California Department of Transportation	Transportation Research Board
California Environmental Protection Agency	U.S. Department of Transportation
California Resources Agency	Universities

California has long been viewed as a leader in research and technological innovation. The State is home to many of the world’s leading universities and university-based transportation centers. University transportation centers provide the creative energy and expertise needed to explore new ideas, materials, and methods for advancing California’s mobility and accessibility.

In the past, the State’s aerospace and defense industry sectors spurred tremendous economic growth. Today, Silicon Valley pushes forward the boundaries of computer research and technology, making California the nexus of the Information Age. Since research and technology drive much



of California's economic growth and resulting transportation demand, it is only fitting that we turn to these industries to improve the efficiency of our transportation system.

### Strategies:

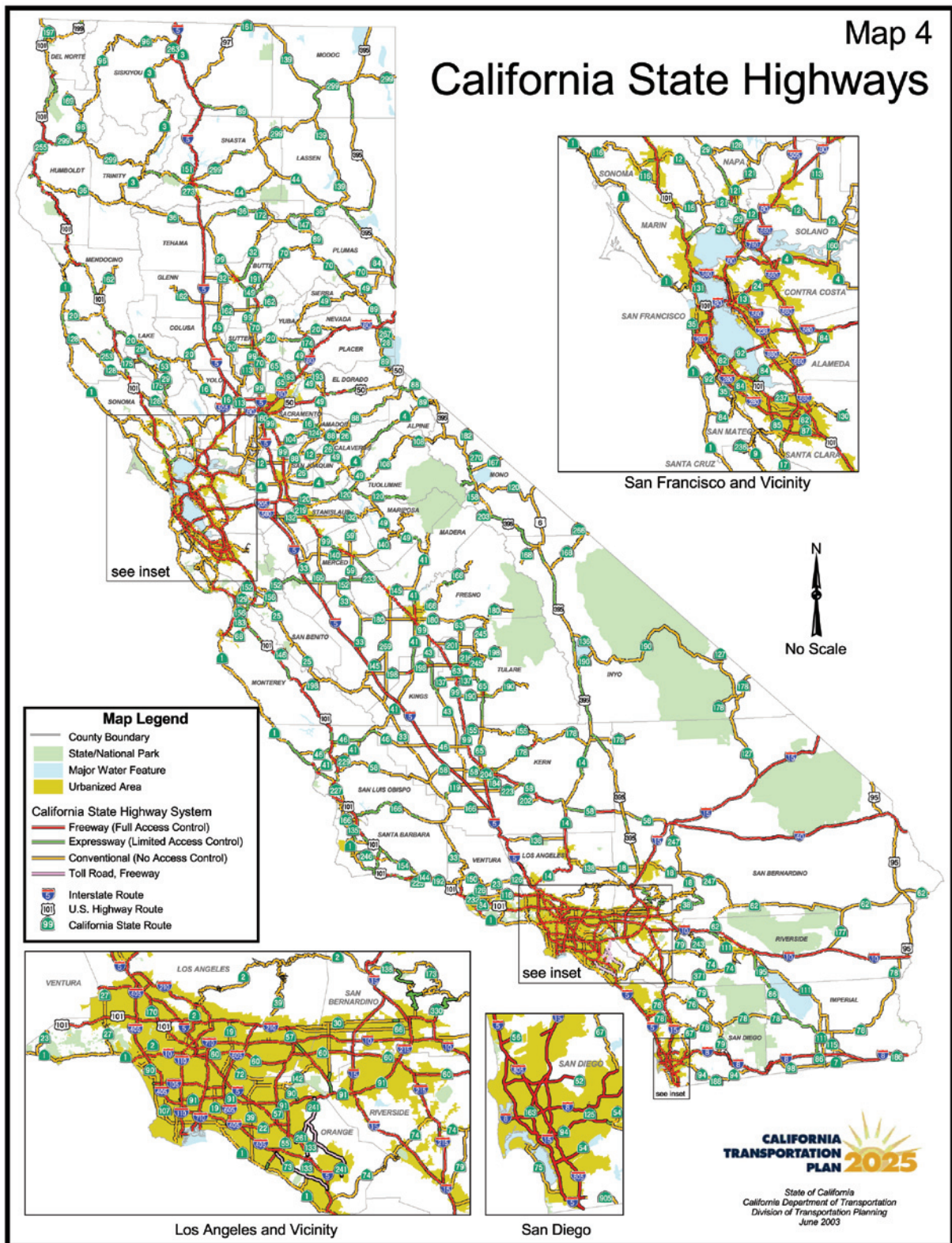
- Test geospatial, digital, and other advanced imaging systems to evaluate environmental and social data related to infrastructure projects and to minimize project costs.
- Develop new materials to extend the life and performance of the transportation system.
- Research methods and technologies to better operate, manage, and maintain the transportation system, and to improve system safety and security.
- Research successful models in other states and countries and determine their value if implemented in California.
- Explore alternatives, opportunities, and challenges for new ideas and solutions.
- Collaborate with federal and State agencies, universities, and other states to explore alternative fuels and fuel infrastructure.
- Expand the existing research and knowledge about older adult traffic safety.
- Pursue research and public education to ensure that drivers are not distracted by and know how to use in-vehicle technologies.
- Continue to enhance the understanding of road ecology, a field of study that seeks to explain the relationship between roads and the natural environment.

### Goal 2) Preserve the Transportation System

Maintaining and rehabilitating the State's extensive transportation system will preserve it for future generations. The SHOPP Plan, July 2002, estimates that Californians have invested over \$300 billion in the State highway system alone (**see Map 4**). Preservation and maintenance resources need to be reliable and continuous to ensure the system's viability for future generations, to avoid the higher cost of deferred maintenance, and to realize the useful life of the State's transportation assets. Preserving the system includes maintaining roadways, rail beds, pedestrian walkways, bicycle paths, airports and seaports; transit facilities and vehicles; and control and communication systems.

The cost of maintaining and operating the transportation system will continue to follow the costs associated with labor and material, which are generally rising. As the cost of maintaining the system increases, less funds are available for meeting increased demand.

# Map 4 California State Highways



Additionally, the skills needed to maintain and operate a modern transportation system are challenging operators in all modes. Highly trained technicians are needed to maintain alternatively fueled transit vehicles; advanced electronic guidance, monitoring, and communication equipment; and vehicles designed to provide services for persons with disabilities. Advanced skills are also needed to operate and maintain the transportation management centers (TMCs). TMC operators monitor system operations and respond to traffic conditions, using devices that are embedded in or positioned alongside the roadway. As transportation technologies continue to advance, the skills needed and the cost to secure those skills, are likely to increase.

## **Policy: Preserve and maintain the transportation system**

### **Partners:**

Advocacy groups	System users
Airport operators	Transit operators
Local and county public works departments	U.S. Congress
Material providers	U.S. Department of Transportation
Railroad corporations	Universities
Regional Transportation Planning Agencies	Vehicle manufacturers
Seaport operators	

Maintenance protects existing investments, defers expensive reconstruction, facilitates system efficiency, and improves the traveler’s experience. California’s transportation system includes over 170,000 miles of maintained public roads, over 12,000 State-owned bridges and structures, and nearly 100 tunnels and tubes. According to the Bureau of Transportation Statistics, the State also has over 8,000 miles of Class I, regional, local, switching and terminal railroads, and 250 general aviation and 28 commercial airports. Additionally, there are numerous sidewalks, bicycle lanes and paths, signs, lights, and support facilities that require maintenance.

There are over 200 transit operators in California, including urban, commuter, and intercity passenger rail, that need to maintain their transit vehicles, rail, control systems, and support facilities. California’s transit operators have been experiencing increases in operating costs, especially for fuel and insurance (liability, workers’ compensation, health),<sup>35</sup> as well as increased system maintenance costs. These costs must be supported by farebox revenues and the limited public funds available for operation and maintenance.

The State highway system was designed and built in the 1950s-1970s. Not only have these facilities gone beyond their design life, they have also been subjected to traffic volumes significantly greater than originally designed for or projected. According to the *2002 Ten-Year SHOPP Plan*, approximately 20 percent of State highway system’s pavement needs rehabilitation or major reconstruction. More than half the bridges are over 30 years old and, while safe, are in need of rehabilitation or replacement. Existing safety roadside rests need rehabilitation and new rest areas are needed. Although substantial work has been accomplished since

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<sup>35</sup> Legislative Analyst’s Office analysis of 2003-04 California Governor’s Budget.

the previous SHOPP Plan, the 2002 version identifies potential needs of over \$22 billion in rehabilitation, reconstruction, stormwater management, and operational improvements.

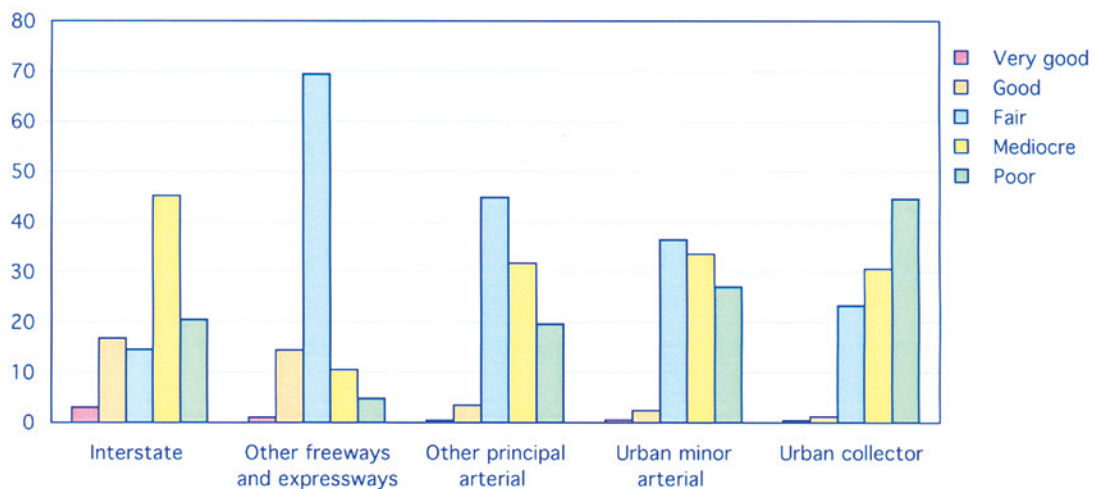
In addition to implementing projects, the Department performs routine maintenance on the State highway system. This includes daily maintenance of pavement, highway structures, landscape, electrical systems, and safety roadside rests; removal of snow, litter, and graffiti; and clean up and repair of damage caused by storms.

According to the Road Information Program, half of California's roads are in mediocre or poor condition and require maintenance. However, at the local level, there are insufficient resources to maintain and operate the roadways, bicycle, pedestrian and transit facilities, and general aviation airports. Even with additional resources from Proposition 42, State, regional, and local agencies will be challenged to maintain the aging system. **Figure 12** shows the condition of the State highway system and local streets and roads using data collected by the FHWA.

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**FIGURE 12**

Urban Road Conditions in California: 2000



Source: U.S. Department of Transportation, Federal Highway Administration, Highway Statistics, June 2002.

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The private sector, including the traveling public, has a major stake in the maintenance of the transportation system, but also has a major responsibility for maintaining the vehicles using the system. Proper maintenance of privately owned vehicles can reduce incidents and accidents, and help safeguard the environment.